Abstract of the Disclosure

An electro-static chucking mechanism for chucking an object electro-statically is formed of a stage including a dielectric block having a chucking surface with a concave, gas introducing channels communicating with the concave, a chucking electrode provided in the dielectric block, main body fixed to the dielectric block, and a sheet inserted between the main body and dielectric block for enhancing heat transfer therebetween. A temperature controller is attached to the main body to circulate a coolant to a cavity for controlling temperature of the object. A chucking power supply is connected to the chucking electrode to apply voltage thereto to chuck the object. A gas introduction system is connected to the gas introducing channels for introducing heat-exchange gas into the concave. Lift pins for receiving and transferring the object are disposed in the respective gas introducing channel.